Economics of Invasive Species: Nursery Industry Perspectives

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About the Industry

- Nursery & Floral Crops: *The Other Agriculture*
  - $13.3 billion at farmgate
  - 11 percent of value of crop agriculture
  - Ranks in top 5 in 23 states, top 10 in 42 states
  - Free-market sector, connect with urban America
- Gardening – America's #1 Hobby
  - 8 of 10 American households participate
  - $466 per household in '02
  - Spending growth of about 4% per year
  - Near- to mid-term demographics positive

Invasive Species: Issue Cuts Two Ways

- Plant Pests
- Pest Plants

Plant Pests

- Often introduced unintentionally via travel and trade pathways
- Often not detected until well-established
- Myriad impacts on industry
  - Direct crop losses
  - Increased management costs
  - Market access loss or disruption
  - Market demand shifts
- Crop diversity both a strength, a weakness

Pest Plants

- New plant introductions drive industry, consumer market
- Some limited number of new intros may have serious unintended consequences
- Both government and industry studying improved ways to assess and manage risk, maximize benefits, minimize harms

The Pest Parade

- Agricultural and environmental threats
- Gypsy moth
- *Phytophthora ramorum* – "Sudden Oak Death"
- Citrus canker
- Plum pox virus
- *Ralstonia solanacearum* Race 3 biovar 2
- *Puccinia hemerocallidis* (daylily rust)
- Asian, citrus, and cedar longhorned beetle
- Emerald ash borer

Trends in Int'l Plant Trade

- Plant exploration no longer the province of government, institutional scientists
- Pressure for commercial-volume trade vs. limited-quantity variety acquisition
- More varieties coming in from more places
- Pressure to further open U.S. markets:
  - orchids from Taiwan,
  - artificially dwarfed plants from China
  - Plants in growing media from Mexico

Case Study – Sudden Oak Death

- Identification of *Phytophthora ramorum* as causal agent, plus expanding host list, have disrupted CA industry
- Recent detection in Oregon suggests “European connection”

The Challenge in Larger Context

- Is current regulatory strategy for propagative material adequate/protective?
  - Volume increasing, nature of int'l trade changing
  - New pathways emerging (e.g., SWPM)
  - Reliance on low-intensity port inspection
  - "No risk in the unknown"
  - Limited resources to build knowledge base
  - "Quid pro quo" trading environment
  - Program shift to Dept. of Homeland Security

Solid Wood Packing Material

- 52 percent maritime and 9 percent air shipments have wood packaging
- In mid/late 1990s pest interceptions with wood packaging were recorded from 64 countries
- >700 species of quarantine pests were found at 58 ports of entry in 2000-2001

Case Study: Emerald Ash Borer

- First discovered and identified in MI in summer 2002. New to North America
- Now in 6 MI counties, Windsor, ONT and Lucas County, OH.
- Entry via solid wood packaging
- 100 percent fatal to ash trees. 6 million trees already infested or dead. Michigan alone home to 700 million ash.

EAB: Financial impacts

- More than $20 million of ash lumber lost (actual estimates to date)
- #1 or #2 shade tree. Impacts of roughly $4 million to SE MI nurseries alone
- Loss of urban/street/shade trees: 300,000 dead or dying ash; at $1k for removal and replacement = $300 million
- FY 2003 program funding: $14.6 million

Needs for Future

- More comprehensive invasive species economic and environmental impact information in order to:
  - Inform trade policy and decisions
  - Inform decisionmaking and justify resources for all aspects of safeguarding continuum—offshore mitigation, port inspection, and early detection
  - Build funding and capacity for prioritized detection and rapid response efforts
- Comparative analysis of regulatory, other options for screening and prevention to manage risks associated with intentional new species introductions